

Abstract of the Disclosure

Devices and methods for extracting core material contained in plaque deposits inside a blood vessel are presented. A device in accordance with one embodiment of the invention includes a catheter having an elongate shaft, a collection array of a plurality of collection lumens disposed about the distal portion of the elongate shaft, a means for radially extending and/or collapsing the collection array, and a suction means for extracting material from the lumen of the blood vessel. A method in accordance with one embodiment of the present invention includes the steps of inserting the distal portion of the catheter into a lumen of the blood vessel, positioning the distal end of the collection array proximate plaque deposits, extending the collection array to rupture the plaque deposits and urging core material therefrom, and extracting the material using a suction means fluidly coupled to the proximal end of the collection array.